

we have nothing more than one sponge bearing the three names *Wyvillethomsonia Wallichii*, Wright, = *Dorvillia agariciformis*, Kent, = *Tiphisonia agariciformis*, Wyv. Thoms. Its spongiöse nature may be further confirmed by comparing it with my *Wagnerella borealis*, to which it bears much resemblance and which is a true sponge.

With respect to *Gastrophysema scopula*, it is impossible to decide definitively whether it is a Physemarion or a Rhizopod. On the one hand, the presence of pseudopodia, which Mr. Carter has himself observed, leads us to believe in its Foraminiferous nature; on the other, its great resemblance to the other species of *Gastrophysema* observed by Hæckel would make us think that both organisms belong to the Physemaria. In any case fresh observations upon *Squamulina scopula* can alone finally decide the question.

EXPLANATION OF PLATE VI.

[All the figures enlarged and drawn by the camera lucida.]

- Fig. 1.* An adult individual of average size of *Wagnerella borealis*. The peduncle is a little wider above, the head regularly rounded. There are more spicules than are here represented.
- Fig. 2.* A young individual with the head not yet round, and differing but little from the peduncle.
- Fig. 3.* Part of the peduncle, more highly magnified, with the small kind of spicules.
- Fig. 4.* Form sometimes presented by the basal cone of the peduncle, which, however, usually has the form shown in fig. 1.
- Fig. 5.* Different forms of the long spicules which adorn the head: *a*, immeasurably fine; *b*, stouter, but straight; *c*, long and curved; *d*, shorter and curved; *e*, zigzag.
- Fig. 6.* Different forms of spicules of the second category, fusiform, shorter and stouter: *a*, typical; *b*, curved; *c*, typical, with a bubble of air (?).

X.—*Descriptions of new Species of Heterocera from Japan.*
—Part II. *Noctuites*. By ARTHUR G. BUTLER, F.L.S.,
F.Z.S., &c.

Cymatophoridæ.

59. *Gonophora derasoides*, n. sp.

Nearly allied to *G. derasa*, but of a greyer tint; the markings (particularly on the white costal streak of primaries) less defined; the reniform and other discoidal spots narrower and more transverse; the area between the oblique white stripe and the zigzag lines pale stramineous, with darker and lunated

spots upon it, the zigzag lines wider apart, *only three in number*; the outer border white, the intersected semicircular marginal spots pale buff instead of ferruginous, the outer border of secondaries white, not yellowish. Expanse 1 inch 8 lines.

Hakodaté (*Whiteley*).

60. *Cymatophora ampliata*, n. sp.

Allied to *C. or*, but considerably larger, the primaries of a silvery grey instead of whity-brownish tint, the inner band darker, straighter, with more dentated limiting lines, the outer band with an additional angle towards the costa, and with the outer line more regularly undulated, blackish, and parallel to the inner line; fringe darker; secondaries darker; thorax greyer; head, collar, and antennæ testaceous. Expanse 2 inches.

Yokohama (*Jonas*).

61. *Cymatophora octogesima*, n. sp.

Allied to *C. ocularis*, but much larger, of a dark silvery grey tint, with the transverse lines and margins of the 80-like reniform and orbicular spots deep black, the lines near the base more dentated, the central band wider and its external limiting line irregularly zigzag; fringe of secondaries paler. Expanse 1 inch 11 lines.

Yokohama (*Jonas*).

Bombycoïdæ.

62. *Acronycta leucocuspis*, n. sp.

Closely allied to *A. cusps*, but the primaries of a darker grey tint, and the secondaries white instead of greyish brown, the discal line and external border darkest on the veins; thorax much darker; abdomen irrorated with black to the base. Expanse 1 inch 9 lines.

Var. Differing from the dark form of *A. cusps* in the shining slaty grey tint of primaries, the spots upon which are only indicated by black annular markings, and in the paler greyish white colouring of the secondaries, on which the transverse discal line and outer border are easily distinguishable. Expanse 2 inches.

Yokohama (*Jonas*).

63. *Acronycta increta*, n. sp.

♂. Closely allied to *A. tridens*, but noticeably larger, the primaries much darker and shining, the fringe shorter, less

distinctly black-spotted; secondaries similar. Expanse 1 inch 10 lines.

Yokohama (*Jonas*).

Leucaniidæ.

64. *Mythimna placida*, n. sp.

Nearly allied to the North-American *M. pseudargyria*, but with the primaries and thorax pale sandy greyish, the orbicular and reniform spots less distinct, and the double discal series of black dots less complete; secondaries deep grey, blackish externally, with whitish fringe: primaries below blackish, with the costal and external borders whitish, crossed near the apex by a black dash; a marginal series of black dots; secondaries whitish, irrorated with black, a dot at the end of the cell, a discal series and a marginal series black; body below whitish. Expanse 1 inch 10 lines.

Yokohama (*Jonas*, *Pryer*).

65. *Mythimna rufipennis*, n. sp.

Allied to *M. turca*, but with barely an indication of the transverse lines on primaries, and with the secondaries and abdomen shining whity brown with rosy margin; below much paler than *M. turca*. Expanse 1 inch 6 lines.

Yokohama (*Jonas*).

66. *Mythimna grandis*, n. sp.

Allied to *M. turca*, but considerably larger; the male greyish, with the two transverse dusky stripes indistinct. In this species the inner stripe runs parallel to the outer as far as the middle of the discoidal cell, and then diverges abruptly inwards to the costal margin, the outer stripe is regularly denticulated: the under surface is whity brown, with a pink tinge; a dot at the end of each cell and a discal transverse stripe grey; a marginal row of black dots. Expanse ♂ 2 inches 1 line, ♀ 2 inches 4 lines.

♂ ♀, Hakodaté (*Whitely*); ♀, Yokohama (*Jonas*).

67. *Mythimna divergens*, n. sp.

Allied to the preceding, but darker, the reniform spot of primaries larger; the male brownish sericeous, or like the female; the female with a large central ochraceous nebula on the primaries, and an ill-defined red-brown patch immediately beyond the reniform spot; the inner transverse stripe of primaries slightly irregular, but diverging throughout from the

outer stripe ; the reddish fringes of a deeper tint : the under surface deep dull reddish, the transverse line on the disk of the wings more slender, more continuous, and darker ; the primaries with a dusky nebula just beyond the cell. Expanse, ♂ 2 inches 2 lines, ♀ 2 inches 3 lines.

♂ ♀, Hakodaté (*Whitely*).

68. *Leucania salebrosa*, n. sp.

Nearly allied to the North-American *L. insueta*, but smaller, the body more uniformly whitish, the collar with two transverse grey lines, the tegulæ longitudinally streaked with reddish and speckled with black ; the white spot at the end of the cell in primaries more elongated : primaries below with the discoidal area greyish ; secondaries below white, with a black dot at the end of the cell. Expanse 1 inch 3–4 lines.

Yokohama (*Jonas*).

Belongs to the *L. putrescens* group, but has grey dusky-bordered secondaries.

69. *Leucania singularis*, n. sp.

Primaries above sandy whitish, with two connected grey patches, one apical, the other filling the basal half of the median interspaces and emitting a streak along the median vein (somewhat as in the *L. putrescens* group), a silvery white spot at the inferior angle of the cell, and a black dot just inside the angle ; two deeply crinkled divergent transverse grey lines dotted externally with black ; a submarginal series of brown lunules, and a marginal series of black dots ; fringe sericeous grey, tipped with white, and intersected by an indistinct dusky line ; secondaries grey, with brown marginal spots ; costal area and fringe whitish ; body above sandy whitish : under surface white, primaries with a wide-spreading central greyish nebula, two whitish spots at the end of the cell, a dusky discal line and a series of black marginal dots ; secondaries with a dot at the end of the cell, a discal series and a marginal series black. Expanse 1 inch 4–6 lines.

Yokohama (*Jonas*).

Unlike any species known to me.

70. *Leucania ærata*, n. sp.

Primaries above brassy brownish, a longitudinal streak along the median vein, and a subapical dash dark brown ; a spot in the cell, a discal angulated series and a marginal series black ; reniform spot pale yellowish ; fringe greyish externally ; secondaries white, with faint indications of a

discal series of dots and a submarginal streak dusky; a marginal series of black dots; thorax reddish brown, abdomen sordid whitish: wings below shining cream-colour; a black dot at the end of the cell, and a marginal series, largest and most continuous on primaries; the apical discoidal and discomedian areas of primaries and a streak near the external angle greyish; body whity brown, becoming darker towards the head; palpi and anterior coxæ smoky brown. Expanse 1 inch 7 lines.

Hakodaté (*Whitely*).

Nearest to *L. aureola*.

MICARDIA, nov. gen.

Allied to *Leucania*, but altogether less robust, the abdomen much more slender, the thorax less elevated, the palpi comparatively longer and more slender, the primaries broader, the style of coloration quite dissimilar. Type *M. argentata*.

71. *Micardia argentata*, n. sp.

Primaries sericeous whity brown with a tinge of olivaceous; a large silvery-white cuneiform patch, filling the greater part of the discoidal cell and extending a little below it; central area olivaceous, varied with rose-colour, bounded by an oblique white line, also an olivaceous streak from the latter to the apex; a submarginal whitish line and a marginal series of black dots; secondaries pale greyish brown, with dusky marginal dots and whitish fringe; body corresponding in colour with the wings, thorax crossed by a white belt: primaries below silky greyish, costal border sandy whitish, outer and inner borders silky creamy white; secondaries silky white; body below greyish. Expanse 1 inch 2-3 lines.

Yokohama (*Jonas*).

72. *Micardia pulchra*, n. sp.

Primaries whity brown, the whole central area and a discal streak (bounded internally by a white-bordered lilac streak, and externally by a submarginal white line) more or less tawny; a large subquadrate blackish patch bounded by the orbicular and reniform spots, which are lilac and white-edged; a large white-bordered elliptical spot of ochreous on the costa near apex; an interrupted black marginal line; fringe tipped with grey; secondaries silvery greyish, with an interrupted dusky marginal line and whitish fringe; body corresponding in general tint with the opposite wings: under surface shining

creamy white, primaries greyish in the centre. Expanse 1 inch 2-3 lines.

Yokohama (*Jonas*).

Mr. Moore has described a third species as *Leucania pulcherrima*.

73. *Alysia grisea*, n. sp.

♂. Above greyish brown, with a shining cupreous tinge; primaries with the external two fifths rather darker than the rest of the wing, the orbicular and reniform spots also rather darker, indications of an annular spot on a darker nebula near the base of the cell; costa spotted with darker colour; three white costal dots towards the apex; a patch of pale colour at the apex bounded on the costa by an elongated white spot; indications of a discal series of dusky-bordered semicircular pale spots; a series of black marginal lunules; fringe pale; secondaries much paler than primaries, with the exception of a broad external border; thorax darker than the abdomen; head and antennæ pale: under surface pale and shining, an irregular greyish disco-submarginal fascia; body below whity-brown, the pectus dusky in front. Expanse 2 inches 1 line.

Yokohama (*Jonas*).

This species somewhat resembles *Ochropleura flammata*; but it is evidently a Leucaniid allied to the genus *Nonagria*, and apparently belonging to Guénée's genus *Alysia*, with which it agrees in the structure of the antennæ and palpi, neuration, and the width of the primaries.

Glottulidæ.

74. *Dandaca senex*, n. sp.

♂. Primaries above pale bluish grey, becoming greenish at base and on costal area, basal area crossed by an ill-defined sprinkling of raised white scales; a spot in the cell, the margins of the reniform spot (which is indicated by a black litura), a sigmoidal discal stripe, a subapical spot and zigzag submarginal line, all of raised white scales; a black irregular line across the basal area; two central slender black lines, the outer one deeply dentated, a >-shaped black marking and two spots near the external angle; costa black-spotted; fringe white, spotted with brownish; secondaries sericeous greyish brown, with a broad pale-edged blackish outer border, fringe pale, margin black-dotted; thorax greenish grey, abdomen sericeous whitish: wings below whity brown, with a broad black-edged irregular discal band; outer border broadly blackish; body below whitish. Expanse 1 inch 8 lines.

♀. Larger, darker; abdomen brown. Expanse 1 inch 10 lines.

Yokohama (*Jonas*).

Apamiidæ.

75. *Ochria fortis*, n. sp.

♀. Nearly allied to *O. flavago*, the primaries with the yellow areas considerably paler, the line interrupted by the reniform spot forming a semicircular arch; the orbicular and reniform spots much larger, the transverse subbasal brown belt greatly constricted below the median vein and darker; submarginal band, excepting at apex, suffused with brown and consequently indistinct; secondaries greyish brown, sordid whitish in the middle and at the base; thorax and head brown, collar stramineous, abdomen sordid whitish: wings below pale shining sandy brownish; the fringe and discocellulars of primaries, and two transverse streaks (the outer one of primaries diffused) dusky. Expanse 1 inch 10 lines.

Yokohama (*Jonas*).

In some respects more nearly allied to *O. cataphracta* of Grote.

76. *Gortyna acuminata*, n. sp.

Structure of *G. nitela* from North America. Above brown, shot with a faint lilacine gloss and clouded with grey; primaries with the costal margin and two diverging straight internally whitish-bordered transverse lines golden brown; basal area pale, bounded externally by a whitish line; outer border pale, with irregularly zigzag inner edge; orbicular and reniform spots greyish, bordered internally with whitish and golden brown; a marginal series of blackish lunules; fringe grey; secondaries with a broad triangular greyish patch from the middle of the cell to the abdominal margin, an ill-defined discal band of the same colour; costal area testaceous; palpi and antennæ burnt sienna; abdomen with the segmental margins, sides, and anus ochraceous: under surface reddish ochraceous, shining; primaries with an ill-defined darker discal streak. Expanse 1 inch 9–10 lines.

Yokohama (*Jonas*).

The primaries are acuminate and subfalcate.

Xylophasiidæ.

77. *Xylophasia sodalis*, n. sp.

Intermediate between *X. rurea* and *X. hepatica*, with the

pattern of the former, but the deeper coloration of the latter ; it is, however, darker and more glossy than either, and the dark marginal spots of the primaries have a dull lilacine gloss ; on the under surface the wings are not suffused with rose-colour as in *X. hepatica*, and the fringes are grey (dark in primaries), spotted with ochraceous nearly as in *X. rurea*. Expanse 1 inch 9 lines.

Yokohama (*Jonas*).

This species is also closely allied to *X. flavistigma* of Moore. The *Mamestra dubitans* of Walker, which I believe to be the dark form of *Xylophasia lignicolor*, bears a close resemblance to the *X. combusta* type of the above species ; we have this variety both from Yokohama and Hakodaté. *Mamestra opposita* is the dark form of a Ceylonese species.

78. *Apamea conciliata*, n. sp.

Intermediate in colouring and pattern between *A. connexa* and *A. gemina*, with the form and general coloration of the latter, but with the irregular transverse band identical in shape with that of *A. connexa*, although much further from the outer margin and less oblique, the lower half of the band limited externally by an oblique white line, and followed by a whitish diffusion ; apical area as in *A. gemina*, but without the pale spot at apex ; secondaries as in *A. connexa* : wings below as in *A. gemina*, but darker, and with the dusky stripe across the secondaries nearer to the middle of the wing broadly convex (not 3-shaped) ; no dark spot at the end of the cell. Expanse 1 inch 6 lines.

Yokohama (*Jonas*).

The *Xylophasia indocilis* of Walker is the paler form of *A. gemina* ; *X. libera* is identical with *Apamea finitima*, a species near *A. connexa*.

79. *Miana vulnerata*, n. sp.

Primaries greyish black, with the discal area brown ; crossed by two very irregular black lines, widest apart on the costa and nearest just below the cell ; two black >-shaped markings at the base ; orbicular and reniform spots pale brown, enclosing an oval grey annulus and margined with black ; an N-shaped band, testaceous, speckled with carmine, on the disk just outside the external black line ; indications of a submarginal grey streak ; a marginal series of black lituræ ; fringe grey, intersected by a testaceous line ; secondaries pale brown, with a marginal black line ; fringe whitish, with a central grey line ; body above greyish brown, abdomen whitish

at the sides : primaries below shining grey, the borders spotted with whitish ; secondaries shining whitish ; margin and a spot at the end of the cell black ; two discal grey lines ; fringe as above ; body whitish. Expanse 1 inch.

Yokohama (*Jonas*).

80. *Miana segregata*, n. sp.

Primaries brown, crossed before the middle by a broad pale-edged darker band, its inner margin angulated and undulated, its outer margin nearly straight, but with a shallow sinus below the first median branch ; a subquadrate costal sepia-brown white-edged spot near the apex, continued as an indistinct irregular band to the middle of the disk and enclosing a longitudinal black dash ; a marginal series of black dots ; an indistinct sigmoidal pale line near the base ; fringe greyish, dusky below the middle ; secondaries paler, with white costal margin, fringe partially white-tipped ; body brown, whitish at the base of abdomen : primaries below greyish sericeous, internal area whitish, costal and external areas whity brown, speckled with darker brown ; costa beyond the cell flecked with creamy-white ; two indistinct parallel discal lines, the inner one angulated near the costa ; secondaries whity brown, darker towards the apex, a dusky spot on discocellulars and an angulated discal line ; body brown, pectus clothed with whitish hair. Expanse 1 inch 2 lines.

Yokohama (*Jonas*).

[To be continued.]

XI.—*Description of an apparently new Species of Hornbill from Cochin China, of the Genus Anthracoceros.* By D. G. ELLIOT, F.R.S.E. &c.

Anthracoceros fraterculus.

Male. Bill light yellow, with a black spot at base of mandible. A casque rises from base of culmen, extends backwards over the centre of the head, then curves forwards and returns to the culmen, at almost a right angle, at about one third its length from the tip of the maxilla. This is compressed laterally both at its anterior and posterior terminations, swelling outwards in the centre, but inclining to a keel-shape on top along its whole length. This casque is yellow like the bill, black on its anterior face, and with a broad black patch occupying nearly half the anterior portion, but which